Fig.1

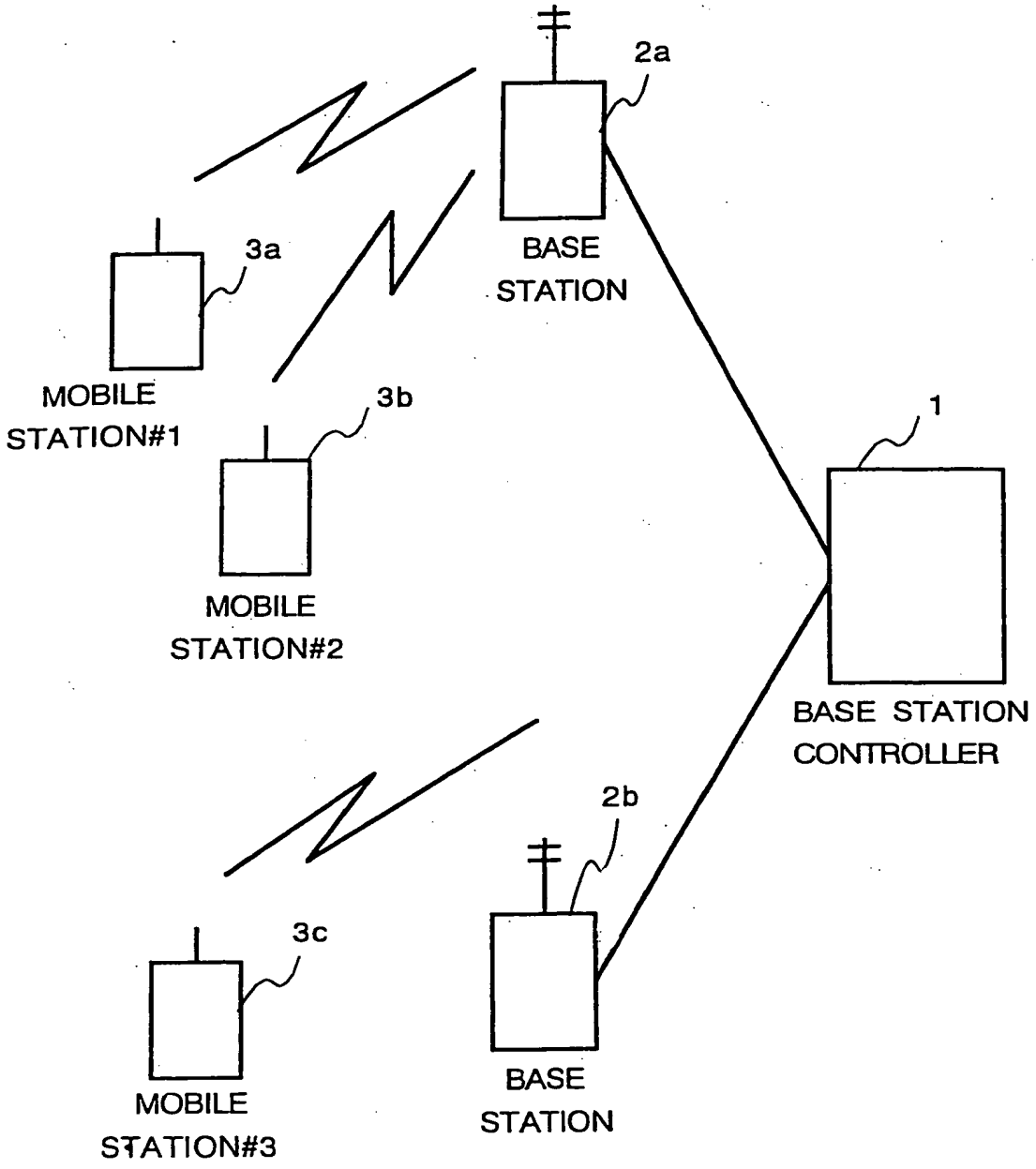

2a
BASE
STATION
3a
MOBILE
STATION#1
3b
MOBILE
STATION#2
1
BASE STATION
CONTROLLER
2b
3c
MOBILE
STATION#3
BASE
STATION

Fig.2

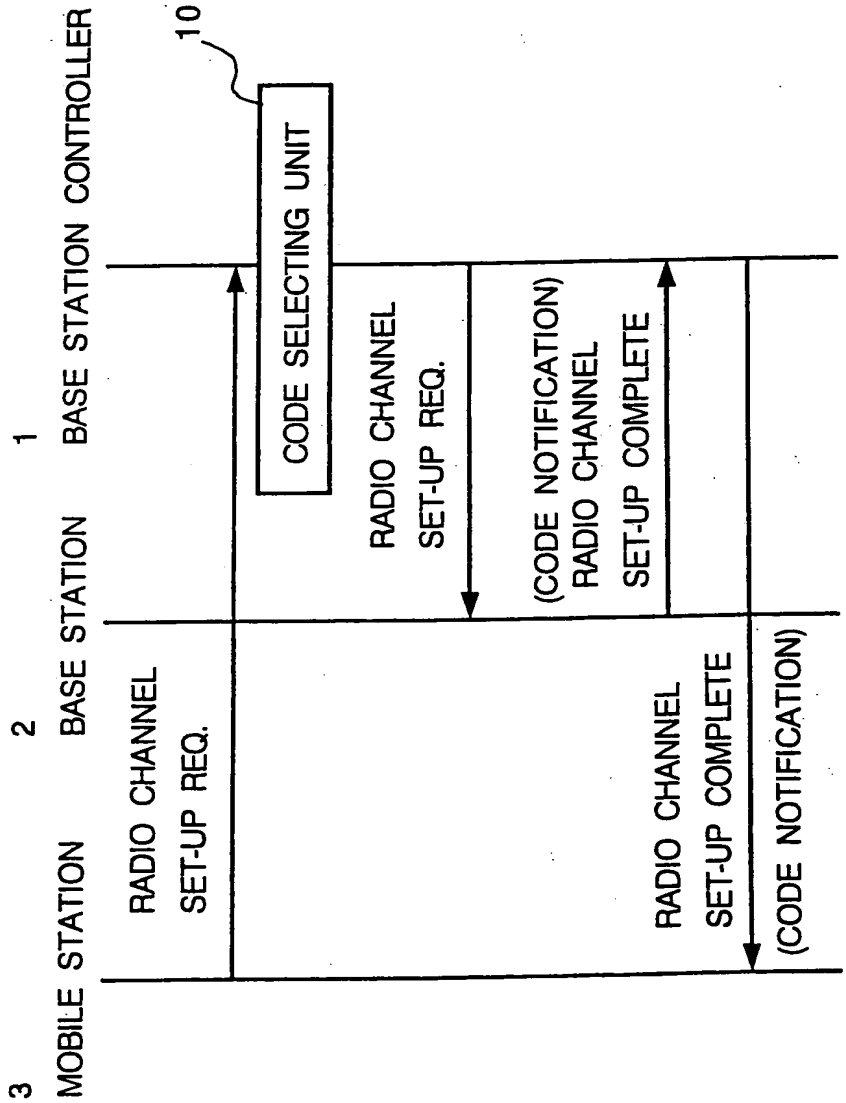

3
MOBILE STATION
2
BASE STATION
1
BASE STATION CONTROLLER
10
CODE SELECTING UNIT
RADIO CHANNEL SET-UP REQ.
RADIO CHANNEL SET-UP REQ.
(CODE NOTIFICATION) RADIO CHANNEL SET-UP COMPLETE
RADIO CHANNEL SET-UP COMPLETE
(CODE NOTIFICATION)

Fig.3

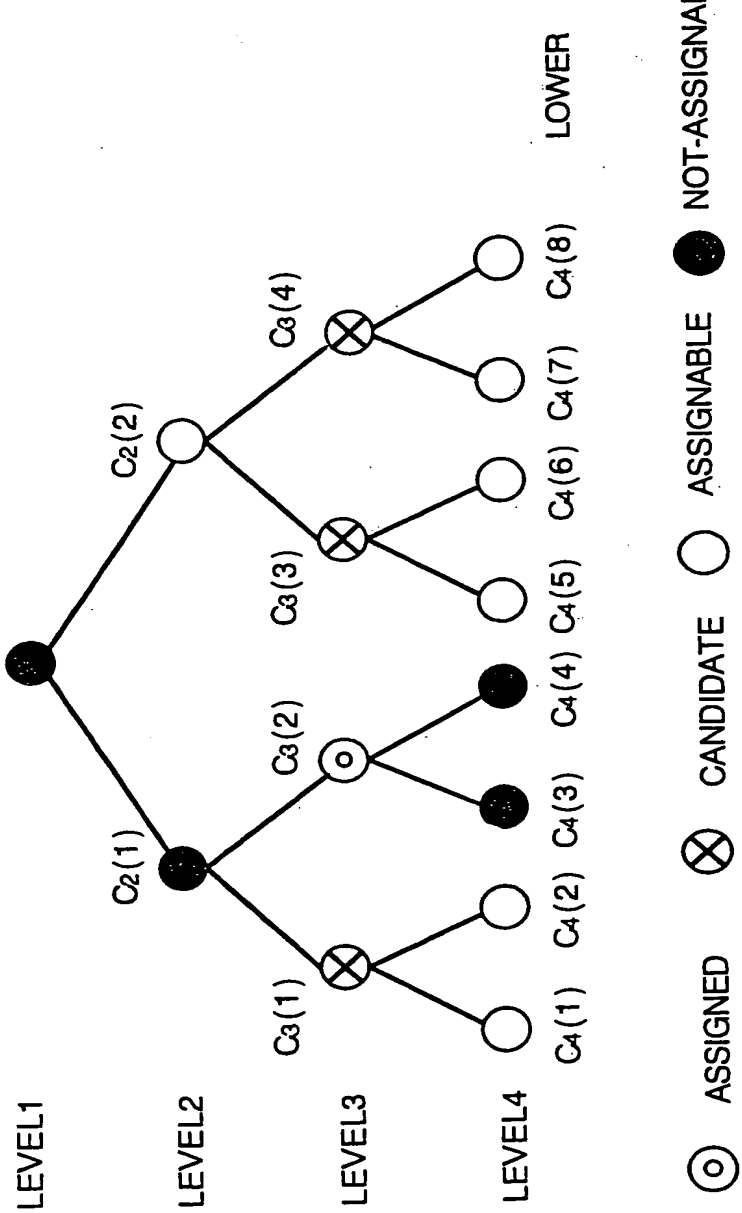

UPPER
LOWER
LEVEL1
LEVEL2
LEVEL3
LEVEL4
C1(1)
C2(1)
C2(2)
C3(1)
C3(2)
C3(3)
C3(4)
C4(1)
C4(2)
C4(3)
C4(4)
C4(5)
C4(6)
C4(7)
C4(8)
ASSIGNED (IN USE)
CANDIDATE CODE
ASSIGNABLE
NOT-ASSIGNABLE

Fig.4

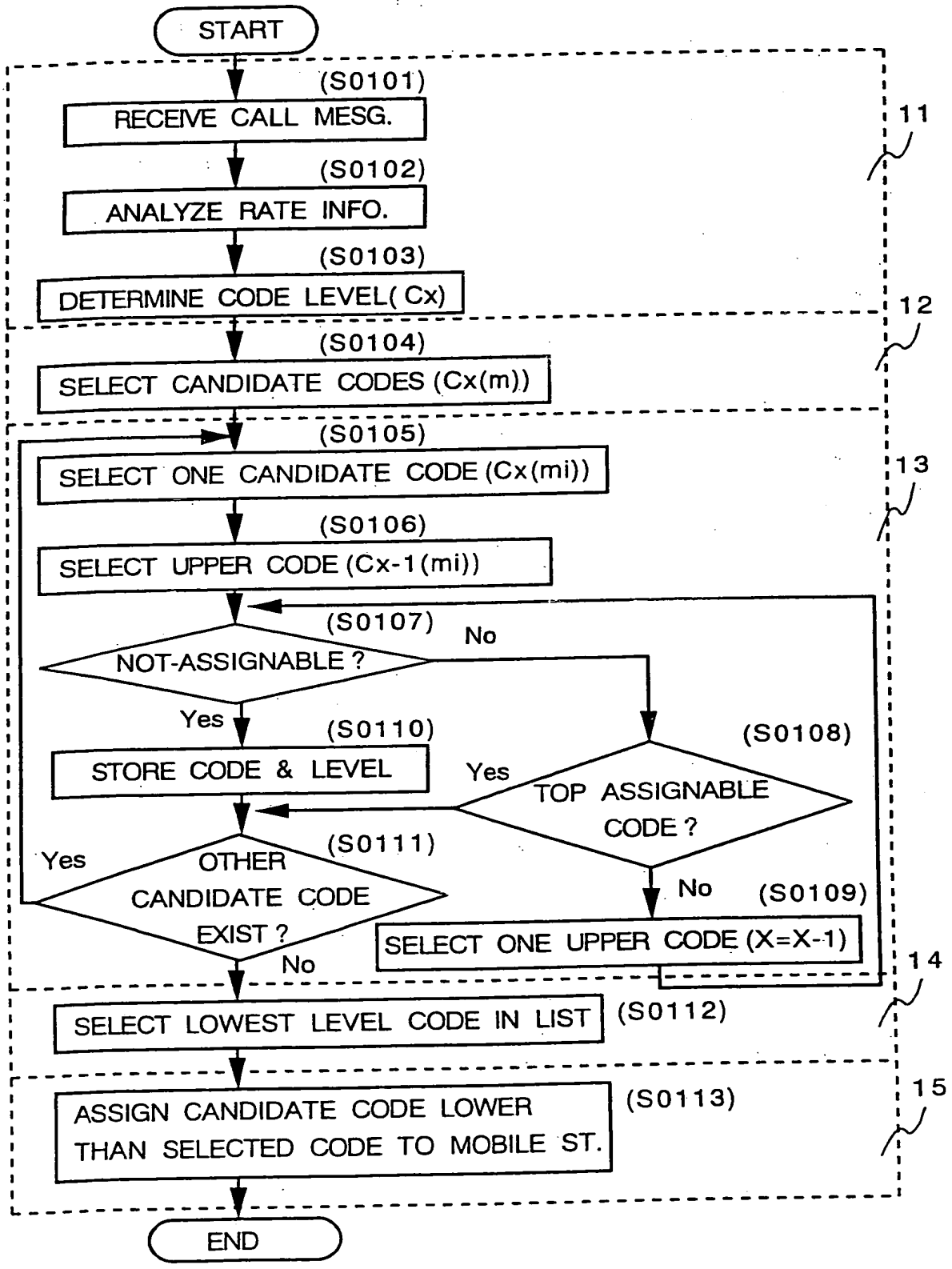

START
(S0101)
RECEIVE CALL MESG.
(S0102)
ANALYZE RATE INFO.
(S0103)
DETERMINE CODE LEVEL(Cx)
(S0104)
SELECT CANDIDATE CODES (Cx(m))
(S0105)
SELECT ONE CANDIDATE CODE (Cx(mi))
(S0106)
SELECT UPPER CODE (Cx-1(mi))
(S0107)
NOT-ASSIGNABLE ?
No
Yes
(S0110)
STORE CODE & LEVEL
(S0108)
Yes
TOP ASSIGNABLE CODE ?
(S0111)
Yes
OTHER CANDIDATE CODE EXIST ?
No
(S0109)
No
SELECT ONE UPPER CODE (X=X-1)
SELECT LOWEST LEVEL CODE IN LIST
(S0112)
ASSIGN CANDIDATE CODE LOWER THAN SELECTED CODE TO MOBILE ST.
(S0113)
END
11
12
13
14
15

Fig.5

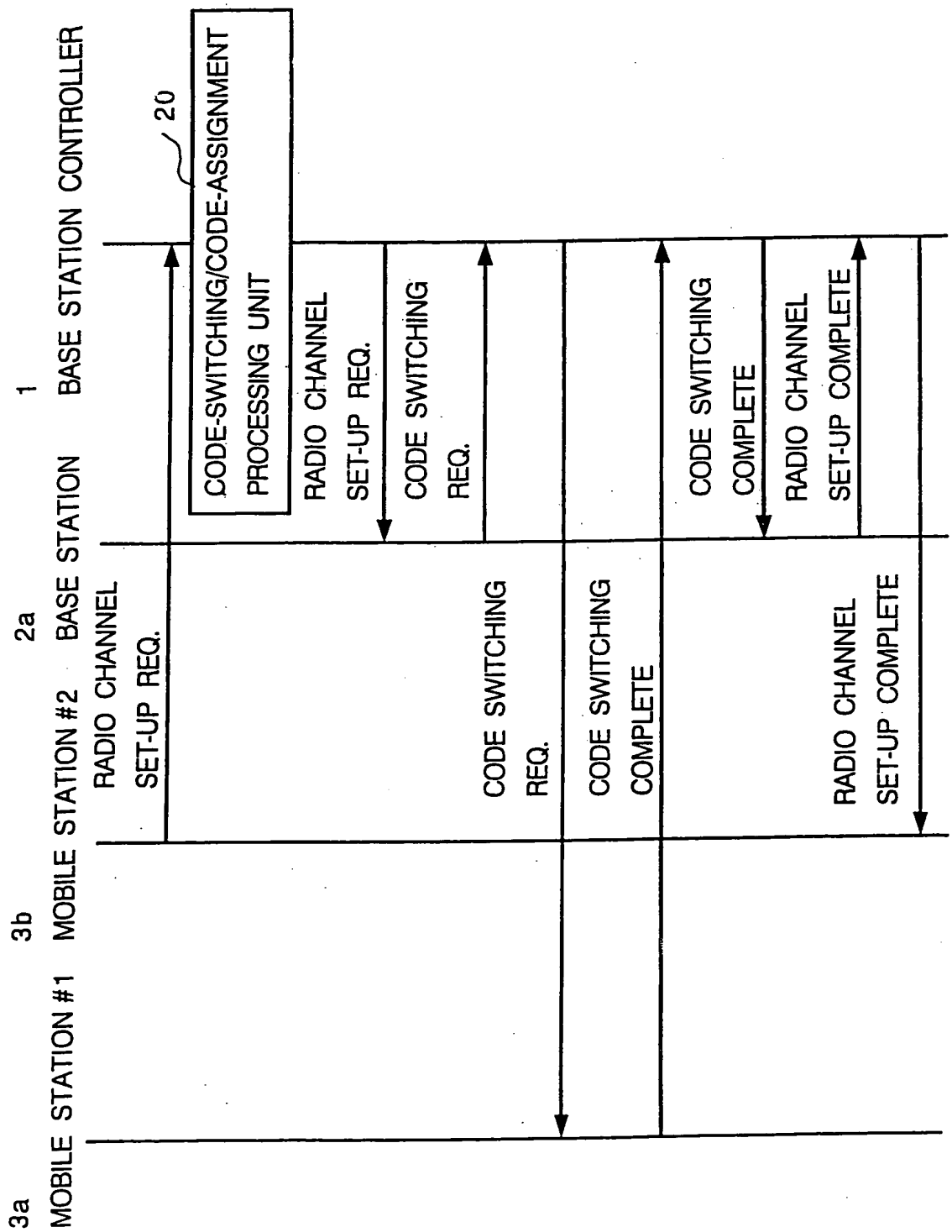

3a
MOBILE STATION #1
3b
MOBILE STATION #2
2a
BASE STATION
1
BASE STATION CONTROLLER
20
CODE-SWITCHING/CODE-ASSIGNMENT PROCESSING UNIT
RADIO CHANNEL SET-UP REQ.
CODE SWITCHING REQ.
CODE SWITCHING COMPLETE
RADIO CHANNEL SET-UP COMPLETE
RADIO CHANNEL SET-UP REQ.
CODE SWITCHING REQ.
CODE SWITCHING COMPLETE
RADIO CHANNEL SET-UP COMPLETE

Fig.6

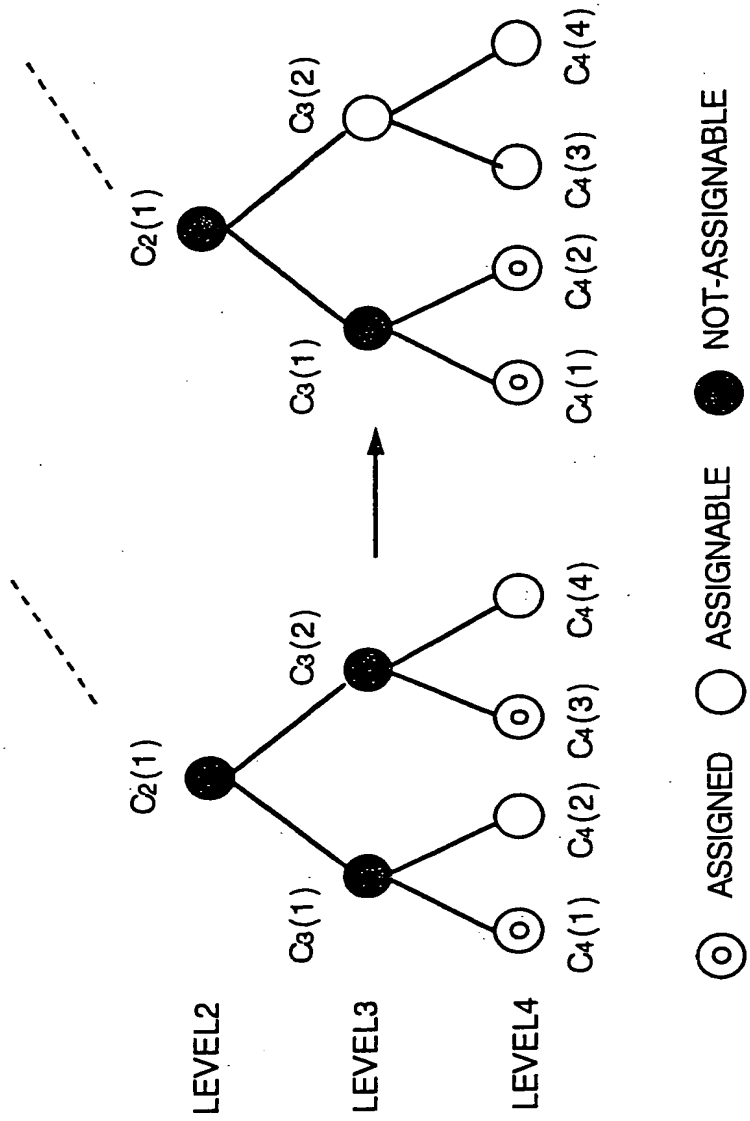

LEVEL2
LEVEL3
LEVEL4
C2(1)
C3(1)
C3(2)
C4(1)
C4(2)
C4(3)
C4(4)
ASSIGNED (IN USE)
ASSIGNABLE
NOT-ASSIGNABLE

Fig.7

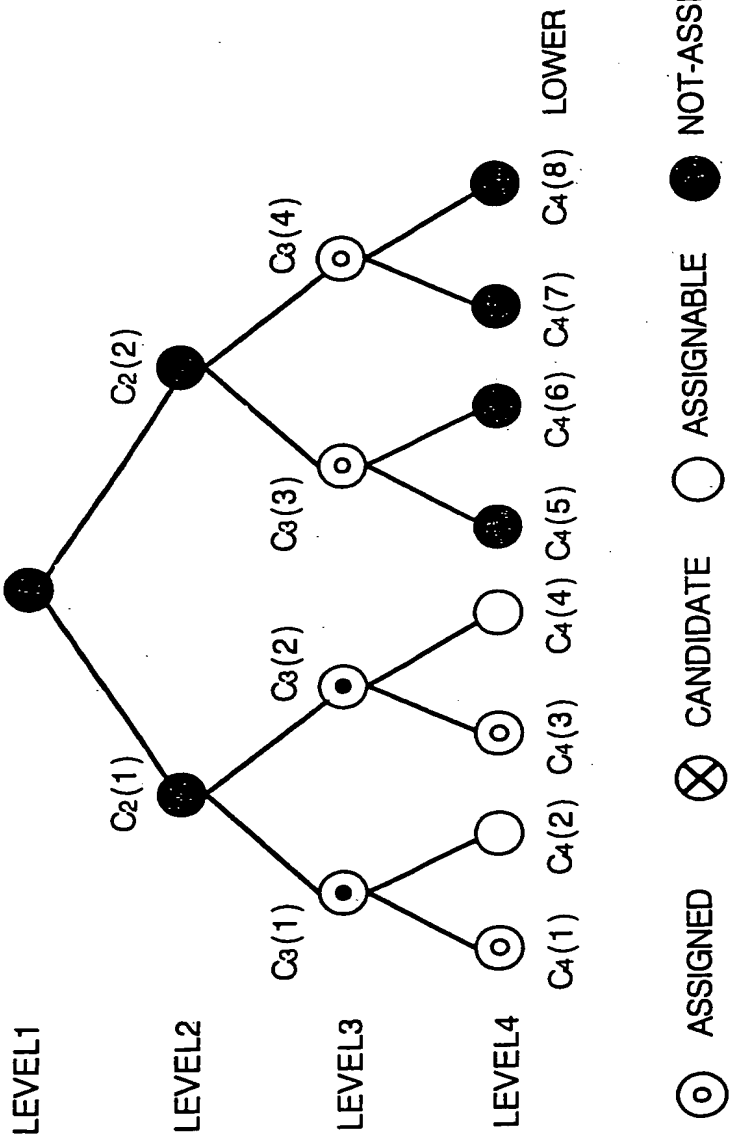

UPPER
LOWER
LEVEL1
LEVEL2
LEVEL3
LEVEL4
C1(1)
C2(1)
C2(2)
C3(1)
C3(2)
C3(3)
C3(4)
C4(1)
C4(2)
C4(3)
C4(4)
C4(5)
C4(6)
C4(7)
C4(8)
ASSIGNED (IN USE)
CANDIDATE CODE
ASSIGNABLE
NOT-ASSIGNABLE
CANDIDATE CODE/NOT-ASSIGNABLE

Fig.8

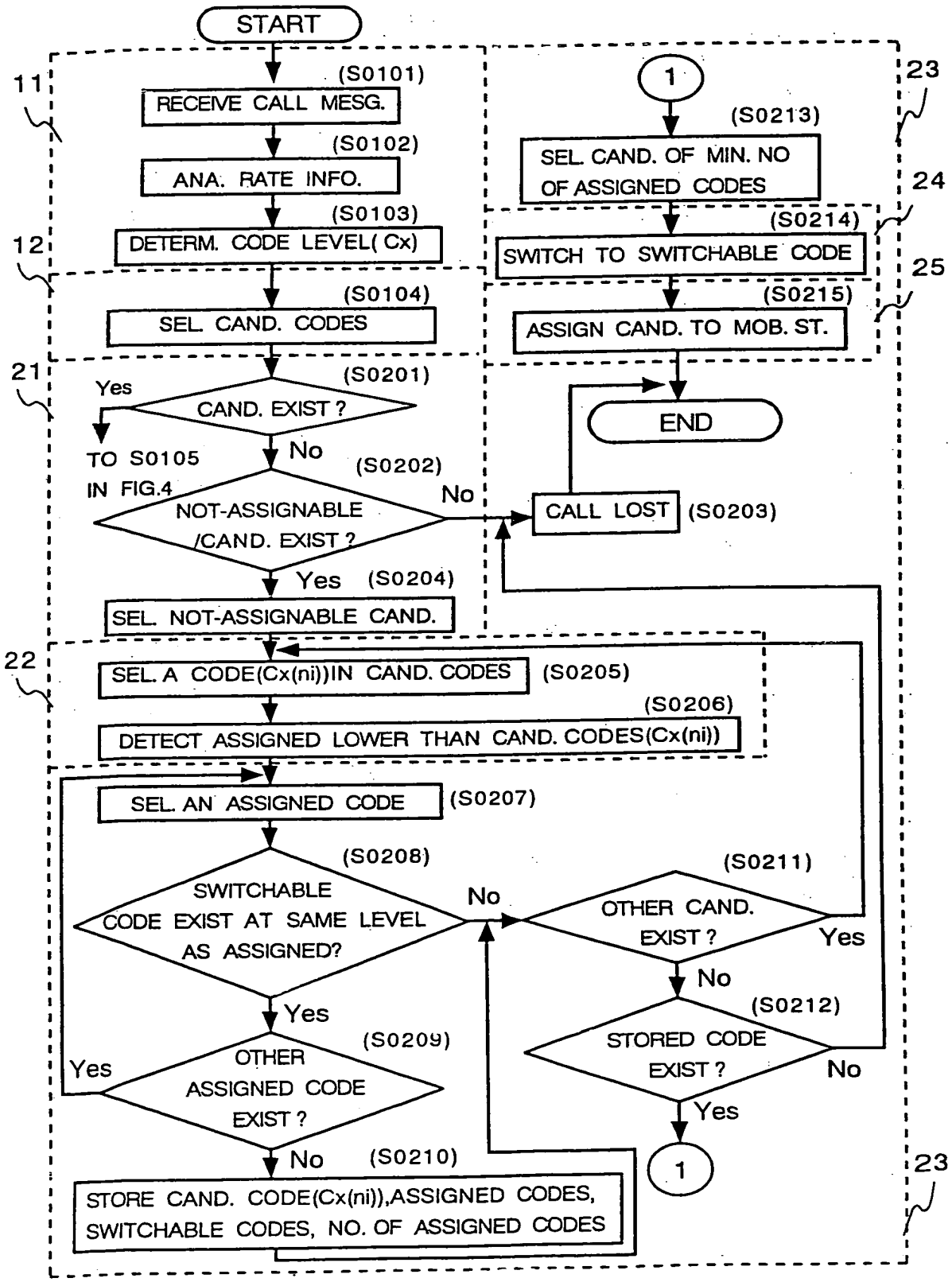

START
11
(S0101)
RECEIVE CALL MESG.
(S0102)
ANA. RATE INFO.
(S0103)
DETERM. CODE LEVEL(Cx)
12
(S0104)
SEL. CAND. CODES
21
(S0201)
Yes
CAND. EXIST ?
No
TO S0105
IN FIG.4
(S0202)
NOT-ASSIGNABLE
/CAND. EXIST ?
No
CALL LOST
(S0203)
Yes
(S0204)
SEL. NOT-ASSIGNABLE CAND.
22
SEL. A CODE(Cx(ni))IN CAND. CODES
(S0205)
(S0206)
DETECT ASSIGNED LOWER THAN CAND. CODES(Cx(ni))
SEL. AN ASSIGNED CODE
(S0207)
(S0208)
SWITCHABLE
CODE EXIST AT SAME LEVEL
AS ASSIGNED?
No
(S0211)
OTHER CAND.
EXIST ?
Yes
No
(S0212)
STORED CODE
EXIST ?
No
Yes
Yes
(S0209)
OTHER
ASSIGNED CODE
EXIST ?
No
(S0210)
STORE CAND. CODE(Cx(ni)),ASSIGNED CODES,
SWITCHABLE CODES, NO. OF ASSIGNED CODES
1
23
1
(S0213)
SEL. CAND. OF MIN. NO
OF ASSIGNED CODES
24
(S0214)
SWITCH TO SWITCHABLE CODE
25
(S0215)
ASSIGN CAND. TO MOB. ST.
END
23

Fig.9

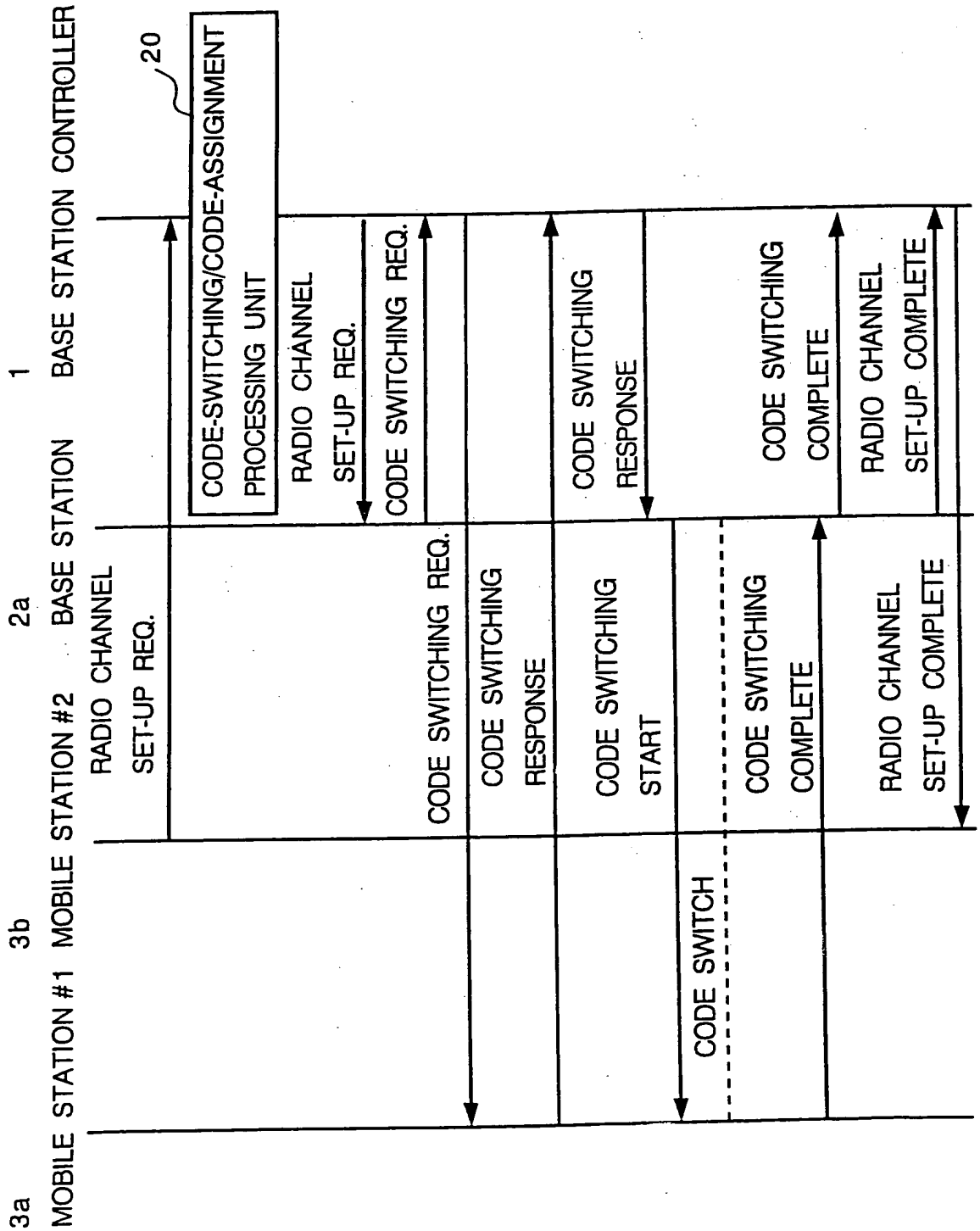

3a
MOBILE STATION #1
3b
MOBILE STATION #2
2a
BASE STATION
1
BASE STATION CONTROLLER
20
CODE-SWITCHING/CODE-ASSIGNMENT PROCESSING UNIT
RADIO CHANNEL SET-UP REQ.
RADIO CHANNEL SET-UP REQ.
CODE SWITCHING REQ.
CODE SWITCHING REQ.
CODE SWITCHING RESPONSE
CODE SWITCHING RESPONSE
CODE SWITCHING START
CODE SWITCH
CODE SWITCHING COMPLETE
CODE SWITCHING COMPLETE
RADIO CHANNEL SET-UP COMPLETE
RADIO CHANNEL SET-UP COMPLETE

Fig.10

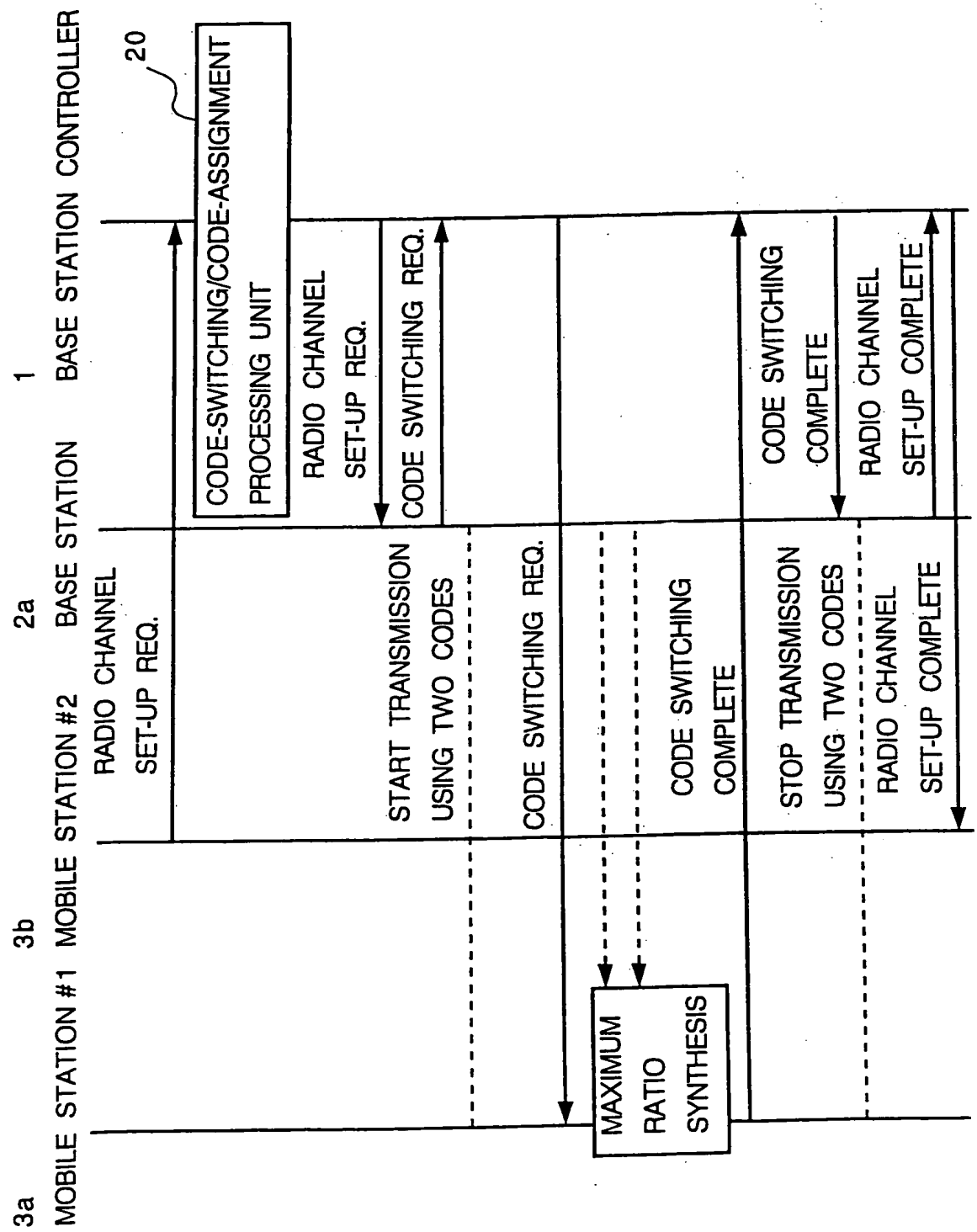

3a
MOBILE STATION #1
3b
MOBILE STATION #2
2a
BASE STATION
1
BASE STATION CONTROLLER
20
RADIO CHANNEL SET-UP REQ.
CODE-SWITCHING/CODE-ASSIGNMENT PROCESSING UNIT
RADIO CHANNEL SET-UP REQ.
CODE SWITCHING REQ.
START TRANSMISSION USING TWO CODES
CODE SWITCHING REQ.
MAXIMUM RATIO SYNTHESIS
CODE SWITCHING COMPLETE
CODE SWITCHING COMPLETE
STOP TRANSMISSION USING TWO CODES
RADIO CHANNEL SET-UP COMPLETE
RADIO CHANNEL SET-UP COMPLETE

Fig.11 RELATED ART

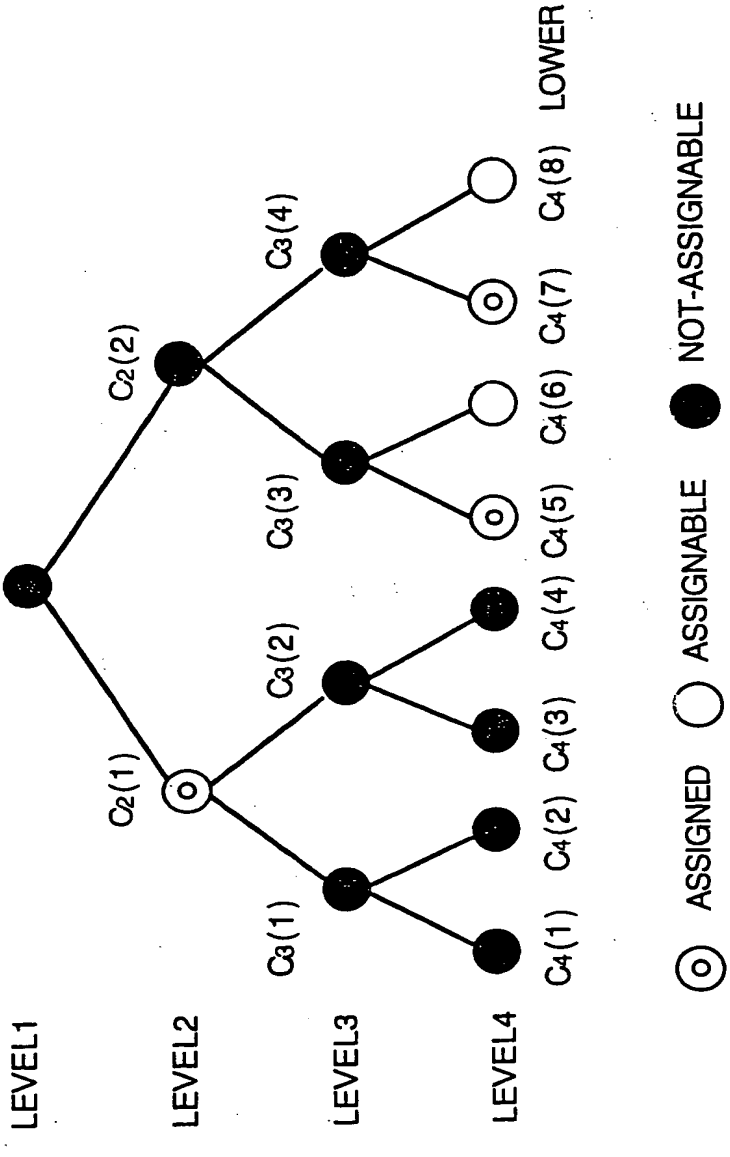


Fig.12

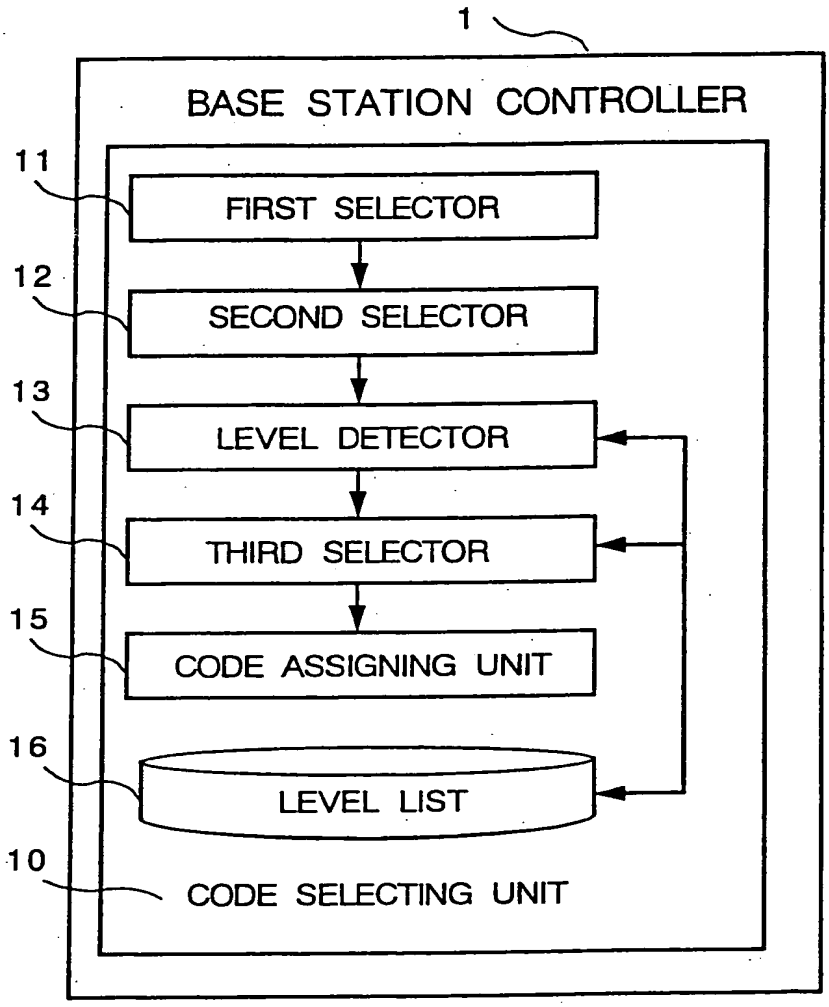

1
BASE STATION CONTROLLER
11
FIRST SELECTOR
12
SECOND SELECTOR
13
LEVEL DETECTOR
14
THIRD SELECTOR
15
CODE ASSIGNING UNIT
16
LEVEL LIST
10
CODE SELECTING UNIT

Fig.13

16 : LEVEL LIST

CANDIDATE CODE	UPPER NOT-ASSIGNABLE CODE	LEVEL
$C_3(1)$	$C_2(1)$	LEVEL2
$C_3(3)$	$C_1(1)$	LEVEL1
$C_3(4)$	$C_1(1)$	LEVEL1

Fig.14

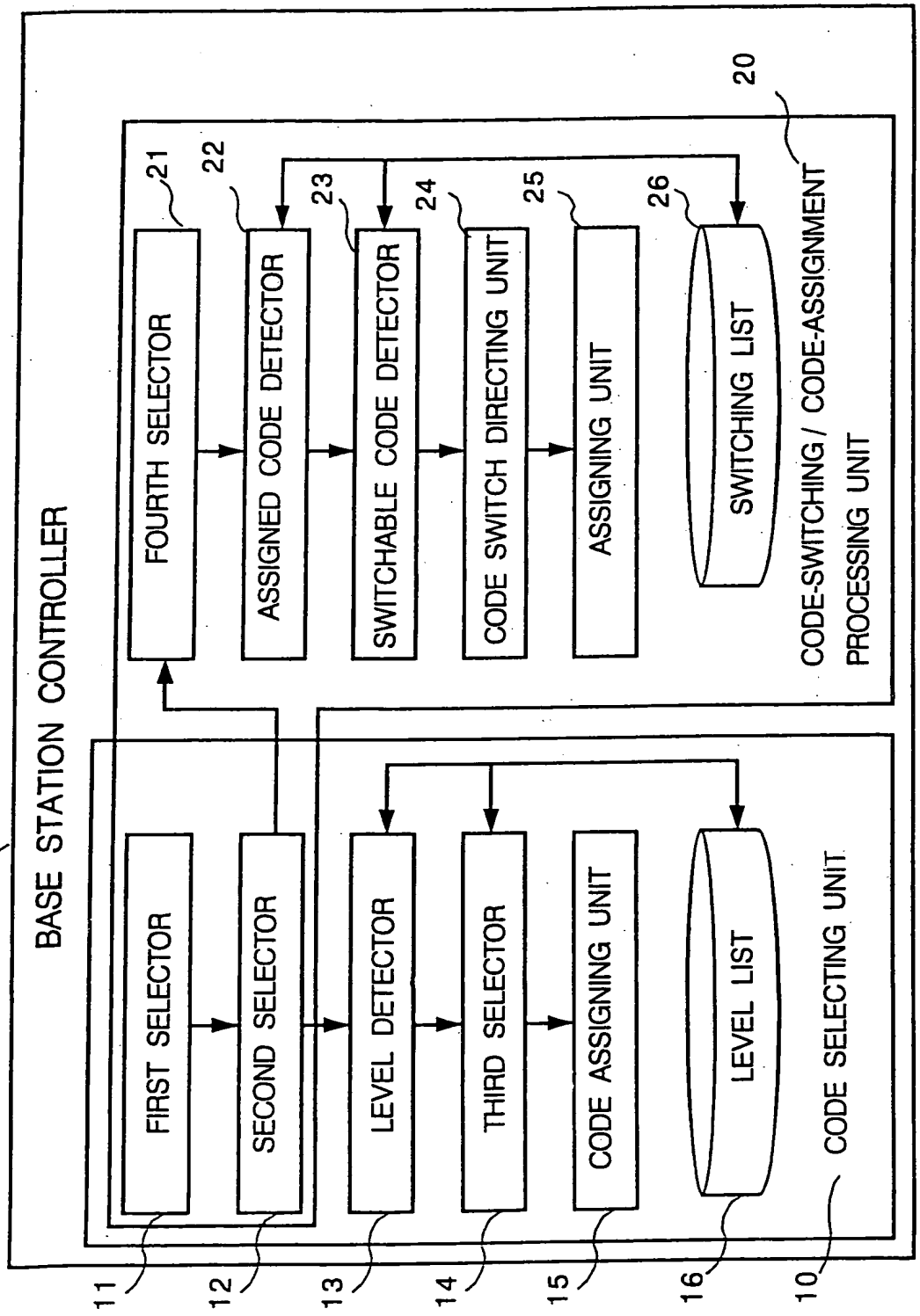

1
BASE STATION CONTROLLER
FIRST SELECTOR
SECOND SELECTOR
LEVEL DETECTOR
THIRD SELECTOR
CODE ASSIGNING UNIT
LEVEL LIST
CODE SELECTING UNIT
FOURTH SELECTOR
ASSIGNED CODE DETECTOR
SWITCHABLE CODE DETECTOR
CODE SWITCH DIRECTING UNIT
ASSIGNING UNIT
SWITCHING LIST
CODE-SWITCHING / CODE-ASSIGNMENT PROCESSING UNIT
10
11
12
13
14
15
16
20
21
22
23
24
25
26

Fig.15

26 : SWITCHING LIST

CANDIDATE CODE	ASSIGNED CODE	SWITCHABLE CODE
$C_3(2)$	$C_4(3)$	$C_4(2)$
$C_3(1)$	$C_4(1)$	$C_4(4)$

Fig.16

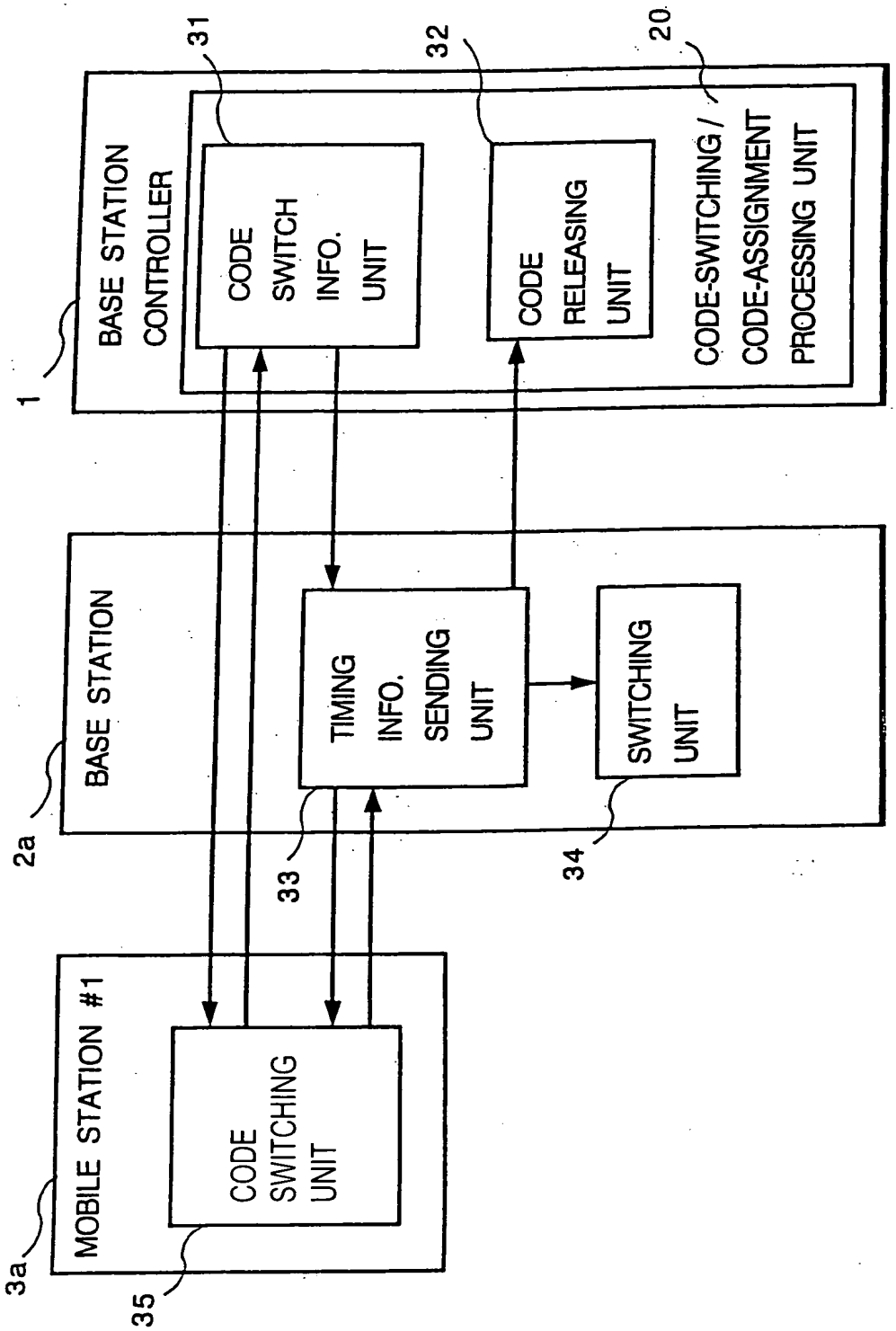
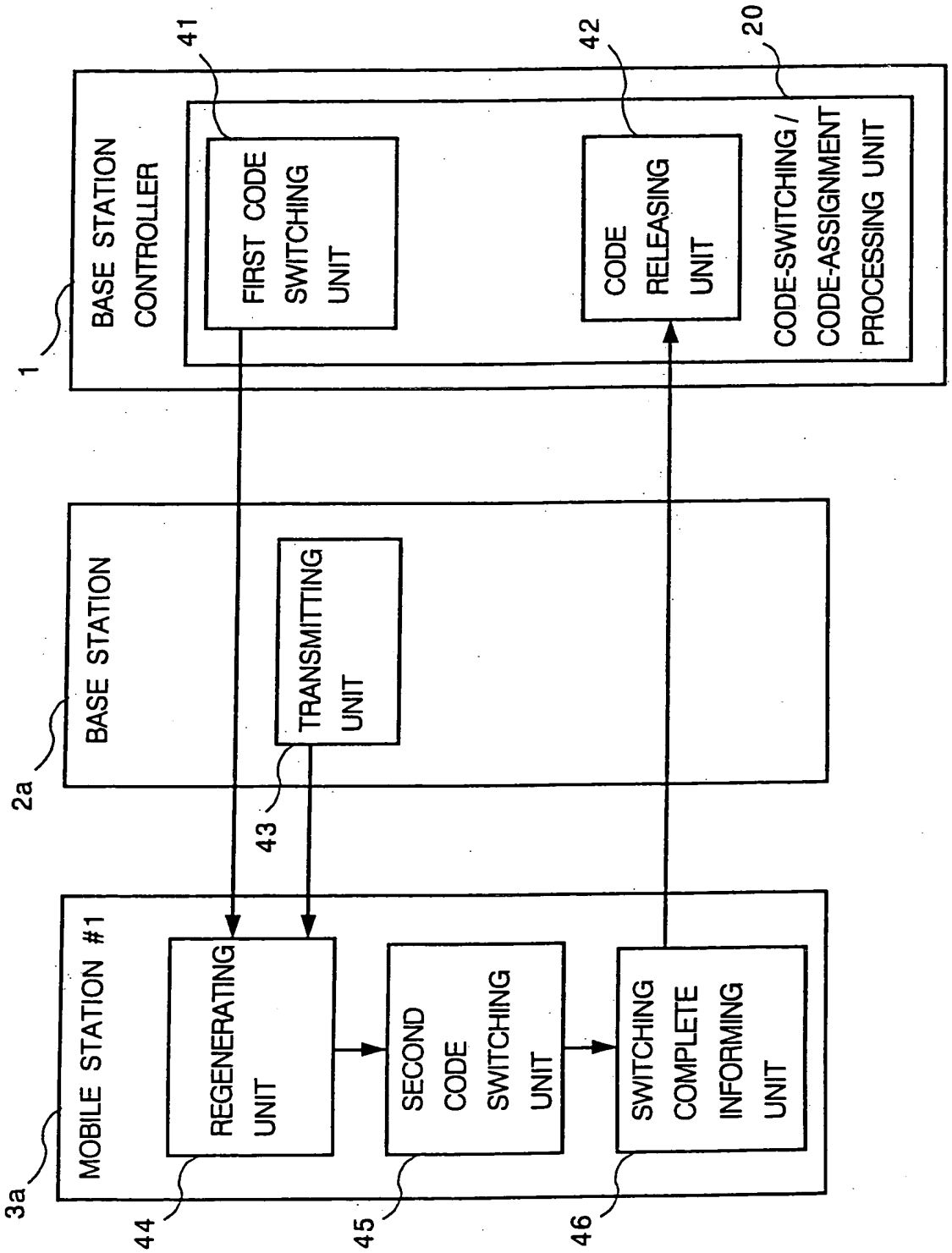

BASE STATION CONTROLLER
1
CODE SWITCH INFO. UNIT
31
CODE RELEASING UNIT
32
CODE-SWITCHING / CODE-ASSIGNMENT PROCESSING UNIT
20
BASE STATION
2a
TIMING INFO. SENDING UNIT
33
SWITCHING UNIT
34
MOBILE STATION #1
3a
CODE SWITCHING UNIT
35

Fig.17


BASE STATION CONTROLLER
1
41
FIRST CODE SWITCHING UNIT
42
CODE RELEASING UNIT
20
CODE-SWITCHING / CODE-ASSIGNMENT PROCESSING UNIT
BASE STATION
2a
TRANSMITTING UNIT
43
MOBILE STATION #1
3a
REGENERATING UNIT
44
SECOND CODE SWITCHING UNIT
45
SWITCHING COMPLETE INFORMING UNIT
46